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EXAMINER	
MOORE, IAN N	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/821,962	POSTHUMA, CARL ROBERT	
	Examiner	Art Unit	
	Ian N. Moore	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-10,15,16,19-30 and 42-46* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-10,15-16,19-30,42-46* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1-3,5-10,15-16,19-30,42-46 are objected to because of the following informalities:

Claim 1 recites "**the** instructions" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites "**the** plurality of telecommunication service" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites "**said** telecommunication service" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites "xDSL service" in line 2. For consistency with claim 1, it is suggested to revise as " the xDSL telecommunication service".

Claim 19 is also objected for the same reason as set forth above in claim 2.

Claim 5 recites " **the** ISDN telecommunication service " in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 recites a relative term "**substantially**" in line 2. For clarity, it is suggested to revise the use of relative term.

Claim 25 is also objected for the same reason as set forth above in claim 20.

Claim 29 recites "**a** controller" in line 2. It is unclear whether this "a controller" is the same as "a controller" recited in claim 1, line 5.

Claim 30 recites "**an** external device" in line 2. It is unclear whether this "an external device" is the same as "an external device" recited in claim 1, line 5.

Claim 42 recites "**the** xDSL telecommunication signals" in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claims 3,6-19,21,22, and 43-46 are also objected since they are depended upon objected impendent claims 1 and 42 as set forth above.

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jenness (US006404774B1) in view of Seazholtz (US006424636B1).

Regarding Claim 1 and 42, Jenness discloses a line card (see FIG. 1, Integrated line Card (ILC) 10) for a telecommunication system (see col. 3, lines 55-65; see col. 4, lines 25-34; POTS/ADSL system) comprising:

a multiple mode circuit (see FIG. 1, Integrated line Card (ILC) 10) adapted for installation in equipment at a central office (see col. 4, line 25-30; ILC 10 is located (inside the equipment) in a central office) that provides at least one of POTS service and ISDN service (see FIG. 1, TDM Mux/Demux 20 for POTS service; see col. 6, lines 14-36) on a single subscriber line (see FIG. 1, a single loop/line/trunk 52 to a subscriber) while concurrently providing one of a plurality types xDSL telecommunication service (see FIG. 1, ADSL transceivers 12a-n (where

x=A (i.e. Asymmetric) is one form/type of xDSL)) on said single subscriber line (see col. 4, lines 30-35; see col. 8, lines 1-16; providing both POTS and ADSL services concurrently added on single subscriber loop/trunk/line 52),

the multiple mode circuit including a controller (see FIG. 1, a combined system of control processor 14, signaling sense & control 16 and digital signal processing for voice and signaling 18a-n) that receives the instructions from an external device (see FIG. 1, receiving singling/instruction from the data network management over signaling message channel 55) with regard to the plurality of telecommunication services (see col. 7, lines 4-45; regarding POTS and ADSL) and configures the multiple mode circuit to operate said telecommunication services (see FIG. 1, data network management configures/manages/control ILC 10 for POTS and ADSL services; see col. 7 lines 4-45), wherein the external device comprises one of a broad band element management system or a PSTN maintenance center (see col. 5, lines 4-45; data network management entities at upstream remote source);

the controller changing from a first type of xDSL telecommunication service (see FIG. 1, ADSL transceivers 12a-n) to a second type of telecommunication service (see FIG. 1, POTS service; see col. 6, lines 14-36) of a subscriber on the signal subscriber line (see FIG. 2, telephone 102 on the digital loop carrier line (i.e. caller)) with another party (see FIG. 2, another telephone/terminal on the opposite site (i.e. callee)); see col. 4, line 25-63; see col. 6, line 14-45; see col. 7, line 1-46).

Jenness does not explicitly disclose during an ongoing communications session, and to a second type of xDSL telecommunication service. However, Seazholtz teaches the controller (see FIG. 7, Micoroprocessor/controller of the central office) changing from a first type of xDSL

telecommunication service (see col. 12, line 1-16; see col. 13, line 51-65; col. 14, line 1-17; a changing first conventional ADSL type/mode) to a second type of xDSL telecommunication service (see col. 12, line 17-36; see col. 13, line 51-65; col. 14, line 13-45; to a second bidirectional improved type/mode of DSL (e.g. directional HDSL, see col. 2, line 1-7,25-37; see col. 6, line 46-55) for real time application) during an ongoing communications session (see col. 12, line 1-5; during a communication section) of a subscriber (see FIG. 7, Subscriber on subscriber premises (e.g. caller)) on the signal subscriber line (see FIG. 7, on the DSL line) with another party (see FIG. 7, another Subscriber on the opposite end (e.g. callee)); see col. 11, line 1-20; see col. 12, line 1-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide changing during an ongoing communications session, and to a second type of xDSL telecommunication service, as taught by Seazholtz in the system of Jenness, so that it would controllably operate in one of plurality of different modes ant at any one of a plurality of bits rates for a plurality of different services; see Seazholtz col. 2, line 54-67.

4. Claim 1-3, 5,6, 15,19-21,23-25,27-30,42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine (US006356547B1) in view of Seazholtz.

Regarding Claim 1, Valentine discloses a line card (see FIG. 2, a line circuit 75 or FIG. 3, a line circuit 100) for a telecommunication system (see FIG. 1, a communication system; see col. 3, lines 35-37; see col. 7, lines 5-7), comprising:

a multiple mode circuit (see FIG. 3, a line circuit 100 or FIG. 2, a line circuit 75) adapted for installation in equipment (see FIG. 1-2, a line circuit 100 installs inside DLC 42; see col. 4,

line 16-46) that provides at least one of POTS service (see FIG. 3, POTS) and ISDN service (see FIG. 3, ISDN; see col. 7, lines 8-21, see col. 5, lines 60-67) on a single subscriber line while concurrently providing one of a plurality of types of xDSL telecommunication service (see FIG. 3, one type of XDSL) on said single subscriber line (see col. 4, lines 14-46; see col. 7, lines 8-21; a single interface provides POTS/ISDN and xDSL services concurrently/parallel over a multiplexed single subscriber loop/trunk 29),

the multiple mode circuit including a controller (see FIG. 2 or 3, a combined system of DSP 66 and store algorithms (memory) 68) that receives the instructions from an external device (see FIG. 1, O/M center 50; see FIG. 2, O/M interface 52) with regard to the plurality of telecommunication services (see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59) and configures the multiple mode circuit to operate said telecommunication services (see FIG. 1, O/M center 50 (Operations management center 50) configures/manages/control a line circuit 42 for multiplexed POTS/ISDN and xDSL services; see col. 5, lines 30-50; see col. 6, lines 1-15; see col. 7, lines 22-59), wherein the external device comprises one of a broad band element management system, a PSTN switch, and a PSTN maintenance center (see FIG. 1, O/M center 50, Operations management center 50; see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59);

the controller changing from a first type of xDSL telecommunication service (see FIG. 3, first type of XDSL, or first variety/type of xDSL protocol) to a second type of telecommunication service (see FIG. 3, ISDN or POTS) during an ongoing communications session (see col. 5, lines 1-43; see col. 6, lines 1-65; see col. 7, lines 10-44; update/change the configuration in/during a communication circuit/line/connection) of a subscriber (see FIG. 1,

Subscriber 15 (e.g. caller)) on the signal subscriber line (see FIG. 1, signal line/trunk 29/45) with another party (see FIG. 1, subscriber 15 on the opposite side of the network (e.g. callee)); see col. 3, line 35-65.

Although Valentine discloses that a combined system of signaling channel 32 and DLC circuit 42 which has a multiple mode system functionality (i.e. POTS, ADSL, HDSL, and ISDN) is at the remote end of the centralized call exchange (i.e. central office) (see Valentine col. 4, line 38-42), Valentine does not explicitly disclose "at a central office" and a second type of xDSL telecommunication service. However, it is well known and established in the art of DLC (Digital Loop Carrier) that DLC interface/line card, or multiple mode circuit/system can be deployed at the central office, and the remote end/terminal is extended end of the central office in order to overcome the trunk distance limitation.

In particular, Seazholtz teaches a multi-mode circuit installed in a equipment at a central office (see FIG. 7, ADSL/AVR system/circuit install in a equipment at the central office; see col. 11, line 1-67), and the controller (see FIG. 7, Micoroprocessor/controller of the central office) changing from a first type of xDSL telecommunication service (see col. 12, line 1-16; see col. 13, line 51-65; col. 14, line 1-17; a changing first conventional ADSL type/mode) to a second type of xDSL telecommunication service (see col. 12, line 17-36; see col. 13, line 51-65; col. 14, line 13-45; to a second bidirectional improved type/mode of DSL (e.g. directional HDSL, see col. 2, line 1-7,25-37; see col. 6, line 46-55) for real time application) during an ongoing communications session (see col. 12, line 1-5; during a communication section) of a subscriber (see FIG. 7, Subscriber on subscriber premises (e.g. caller)) on the signal subscriber line (see FIG. 7, on the DSL line) with another party (see FIG. 7, another Subscriber on the opposite end

(e.g. callee)); see col. 11, line 1-20; see col. 12, line 1-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide changing during an ongoing communications session, and to a second type of xDSL telecommunication service, as taught by Seazholtz in the system of Valentine, so that it would controllably operate in one of plurality of different modes ant at any one of a plurality of bits rates for a plurality of different services; see Seazholtz col. 2, line 54-67.

Regarding Claim 42, Valentine discloses a method for supporting multiple telecommunication services in a line card (see FIG. 2, a line circuit 75 or FIG. 3, a line circuit 100 and see FIG. 3, DSP 66) comprising the steps of:

selecting at one line card adapted for installation in equipment (see FIG. 1-2, a line circuit 100 installs inside DLC 42; see col. 4, line 16-46) either a first operational mode or a second operational mode for the line card (see FIG. 3, 106 A-E; see col. 7, lines 6-30; see col. 5, lines 552-65; tuning to the services/bands/modes among A-E services/bands/modes), wherein the first operational mode provides substantial concomitant operation of one type of xDSL telecommunication service and POTS service on a single subscriber line (see col. 7, lines 8-21, see col. 5, lines 60-67; one type/mode of xDSL (i.e. ADSL) and POTS over a multiplexed single subscriber loop/trunk 29), and the second operational mode provides concomitant operation of another type xDSL telecommunication service (see FIG. 1-3, see col. 7, lines 8-21, see col. 5, lines 60-67; another type/mode of XDSL (i.e. HDSL)) and POTS) on the single subscriber line (see FIG. 1 and 3, see col. 4, lines 14-46; see col. 7, lines 8-21; provide simultaneously/concomitant/parallel over a multiplexed single subscriber loop/trunk 29);

separating the xDSL telecommunication signals and POTS signals, and processing the xDSL telecommunication signals and the POTS signals (see col. 7, lines 6-30; see col. 5, lines 552-65; separately processing xDSL and POTS);

the controller changing from a first type of xDSL telecommunication service (see FIG. 3, first type of XDSL, or first variety/type of xDSL protocol) to a second type of telecommunication service (see FIG. 3, ISDN or POTS) during an ongoing communications session (see col. 5, lines 1-43; see col. 6, lines 1-65; see col. 7, lines 10-44; update/change the configuration in/during a communication circuit/line/connection) of a subscriber (see FIG. 1, Subscriber 15 (e.g. caller)) on the signal subscriber line (see FIG. 1, signal line/trunk 29/45) with another party (see FIG. 1, subscriber 15 on the opposite side of the network (e.g. callee)); see col. 3, line 35-65.

Although Valentine discloses that a combined system of signaling channel 32 and DLC circuit 42 which has a multiple mode system functionality (i.e. POTS, ADSL, HDSL, and ISDN) is at the remote end of the centralized call exchange (i.e. central office) (see Valentine col. 4, line 38-42), Valentine does not explicitly disclose "at a central office" and a second type of xDSL telecommunication service. However, it is well known and established in the art of DLC (Digital Loop Carrier) that DLC interface/line card, or multiple mode circuit/system can be deployed at the central office, and the remote end/terminal is extended end of the central office in order to overcome the trunk distance limitation.

In particular, Seazholtz teaches a multi-mode circuit installed in a equipment at a central office (see FIG. 7, ADSL/AVR system/circuit install in a equipment at the central office; see col. 11, line 1-67), and the controller (see FIG. 7, Micoroprocessor/controller of the central office)

changing from a first type of xDSL telecommunication service (see col. 12, line 1-16; see col. 13, line 51-65; col. 14, line 1-17; a changing first conventional ADSL type/mode) to a second type of xDSL telecommunication service (see col. 12, line 17-36; see col. 13, line 51-65; col. 14, line 13-45; to a second bidirectional improved type/mode of DSL (e.g. directional HDSL, see col. 2, line 1-7,25-37; see col. 6, line 46-55) for real time application) during an ongoing communications session (see col. 12, line 1-5; during a communication section) of a subscriber (see FIG. 7, Subscriber on subscriber premises (e.g. caller)) on the signal subscriber line (see FIG. 7, on the DSL line) with another party (see FIG. 7, another Subscriber on the opposite end (e.g. callee)); see col. 11, line 1-20; see col. 12, line 1-16). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide changing during an ongoing communications session, and to a second type of xDSL telecommunication service, as taught by Seazholtz in the system of Valentine, so that it would controllably operate in one of plurality of different modes ant at any one of a plurality of bits rates for a plurality of different services; see Seazholtz col. 2, line 54-67.

Regarding Claim 2, Valentine discloses a first circuit interface that supports xDSL service (see FIG. 1, line circuit 41 or FIG. 3, XDSL interface 106; see col. 4, lines 14-46; see col. 7, lines 8-21).

Regarding Claim 3, Valentine discloses wherein the first interface supports at least one of asymmetric digital subscriber line service, asymmetric digital subscriber line lite service, and very high bit rate digital subscriber line service (see FIG. 3, ADSL, HDSL interface 106; see col. 4, lines 14-46; see col. 7, lines 8-21).

Regarding Claim 5, Valentine discloses a second interface that supports at least one of the ISDN telecommunication service and the POTS service (see FIG. 1, line circuit 41 or FIG. 3, ISDN and POTS interface 106; see col. 7, lines 8-21, see col. 5, lines 60-67).

Regarding Claim 6, Valentine discloses wherein the second interface supports at least one of 2B1Q ISDN service and 4B3T ISDN service (see FIG. 1, line circuit 41 or FIG. 3, ISDN interface 106; see col. 7, lines 8-21, see col. 5, lines 60-67; ISDN link is 2B1Q).

Regarding Claims 15 and 43, Valentine discloses wherein the controller includes means for receiving (see FIG. 2-3, Interface 60) a signal from the subscriber (see FIG. 2, the combined system 66-68 receives a change indication from the subscriber 15 via Interface 60) during the ongoing communication session where the signal is a request to change from the first type of xDSL telecommunications service to the second type of telecommunication service (see col. 5, lines 1-43; see col. 6, lines 1-65; see col. 7, lines 10-44; an notification/request/desired indicates that a subscriber 15 want to change from first type of XDSL, or first variety/type of xDSL protocol service to POTS/ISDN service). Seazholtz also discloses the controller includes means for receiving (see FIG. 7, MUX) a signal from the subscriber (see col. 14, line 5-25; receiving a request for a change in modes) during the ongoing communication session (see col. 14, line 1-7; during the communication session) where the signal is a request to change from the first type of xDSL telecommunications service to the second type or xDSL telecommunication service (see col. 14, line 5-40; a changing first conventional ADSL type/mode to a second bidirectional improved type/mode of DSL (e.g. directional HDSL, see col. 2, line 1-7,25-37; see col. 6, line 46-55) for real time application; see col. 12, line 17-36; see col. 13, line 51-65; col. 14, line 5-45).

Regarding Claim 19, the claim, which has substantially disclosed all the limitations of the respective claim 2. Therefore, it is subjected to the same rejection.

Regarding Claim 20, Valentine discloses the multiple mode circuit comprises a first circuit interface that supports xDSL service substantially concomitant (see FIG. 1, line circuit 41 or FIG. 3, XDSL interface 106) with one of the POTS service (see FIG. 1 and 3, POTS; see col. 4, lines 14-46; see col. 7, lines 8-21; interface providing various services operates simultaneously/concomitant since various services are coupled in parallel).

Regarding Claim 21, the claim, which has substantially disclosed all the limitations of the respective claim 3. Therefore, it is subjected to the same rejection.

Regarding Claim 23, Valentine discloses wherein the multiple mode circuit supports ISDN service (see FIG. 3, ISDN; see col. 7, lines 8-21, see col. 5, lines 60-67).

Regarding Claim 24, the claim, which has substantially disclosed all the limitations of the respective claim 6. Therefore, it is subjected to the same rejection.

Regarding Claim 25, Valentine discloses wherein the multiple mode circuit supports the ISDN service substantially concomitant (see FIG. 3, ISDN; see col. 7, lines 8-21, see col. 5, lines 60-67) with the xDSL digital subscriber line services (see FIG. 3, XDSL; see col. 7, lines 8-21, see col. 5, lines 60-67).

Regarding Claim 27, Valentine discloses an automatic mode circuit that configures the multiple mode circuit (see FIG. 2 or 3, a combined system of DSP 66 and store algorithms (memory) 68; see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59).

Regarding Claim 28, Valentine discloses wherein the automatic mode circuit configures the multiple mode circuit to operate a combination of the plurality of telecommunication services (see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59).

Regarding Claim 29, Valentine discloses wherein the automatic mode circuit comprises: a controller (see FIG. 2 or 3, a combined system of DSP 66) that receives instructions with regard to the plurality of telecommunication services and controls the multiple mode circuit in accordance with the instructions (see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59).

Regarding Claim 30, Valentine discloses wherein the controller receives the instructions from an external device (see FIG. 1, O/M center 50; see FIG. 2, O/M interface 52; see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59).

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Seazholtz and further in view of Barker (US006470020B).

Regarding Claim 9, neither Valentine nor Seazholtz explicitly discloses P-Phone services. However, providing p-phone service is well known in the art. In particular, Barker discloses p-phone services (see abstract; see FIG. 1, p-phone; see col. 1, lines 25-40; see col. 6, lines 64 to col. 7, lines 36). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Valentine and Seazholtz, by providing p-phone services, as taught by Barker. The motivation to combine is to obtain the advantages/benefits taught by Barker since Barker states at col. 1, line 25-60, col. 2, lines 25-30; col. 3, lines 35-50 that such modification would provide stimulus singling protocol

of p-phone for business handsets, and overcome prior problems by integrating stimulus signaling protocol communication system with message protocol communication system.

Alternatively, the combined system of Valentine and Seazholtz teaches xDSL services, ISDN, POTS, ADSL, HDSL services, and emerging variety of xDSL services at the line card of the central office. Providing additional p-phone services at the interface do not define a patentable distinct invention over that in the system of Valentine since both the invention as a whole and the combined system of Valentine and Seazholtz is directed to providing different services at the central office. The degree in which providing two additional services presents no new or unexpected results, so long as different plurality of services is provided in a successful way. Therefore, to provide p-phone services would have been routine experimentation and optimization in the absence of criticality.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Seazholtz and further in view of Starr (US006324167B1).

Regarding Claim 10, neither Valentine nor Seazholtz explicitly discloses DAML services. However, providing DAML service is well known in the art. In particular, Starr discloses DAML services (see FIG. 2A, DAML 64 and DAML 58; see col. 2, lines 50 to col. 3, lines 11). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Valentine and Seazholtz, by providing DAML services, as taught by Starr. The motivation to combine is to obtain the advantages/benefits taught by Starr since Starr states at col. 2, lines 1-29 that such modification would derive additional communication channels wherein each additional communication

channel is modulated into a separated frequency band by way to a separated transceiver unit such as a DAML.

The combined system of Valentine and Seazholtz teaches xDSL services, ISDN, POTS, ADSL, HDSL services, and emerging variety of xDSL services at the line card of the central office. Providing additional DAML services at the interface do not define a patentable distinct invention over that in the combined system of Valentine and Seazholtz since both the invention as a whole and the system of Valentine is directed to providing different services at the central office. The degree in which providing two additional services presents no new or unexpected results, so long as different pluralities of services are provided in a successful way. Therefore, to provide DAML services would have been routine experimentation and optimization in the absence of criticality.

7. Claim 16 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Seazholtz, and further in view of Heidari (US006512739B1).

Regarding Claim 16, the combined system of Valentine and Seazholtz disclose changing based upon information received via a signal as set forth above in claim 15.

Neither Valentine nor Seazholtz explicitly disclose a handshake signal.

However, changing based upon information received via a handshake signal is well known in the art. In particular, Heidari discloses wherein the controller (see FIG. 3, DSP 372) changes the configuration during a communication session based on information received via a handshake signal (see col. 6, lines 40 to col. 7, lines 35). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined

system of Valentine and Seazholtz, by changing based upon set/up (i.e. handshake) signal, as taught by Heidari. The motivation to combine is to obtain the advantages/benefits taught by Heidari since Heidari states at col. 2, lines 20-49 that such modification would provide access to theses higher frequency ranges at a reduced cost, and without the complexity.

Regarding Claim 44, the combined system of Valentine and Seazholtz disclose receiving the instruction to change based upon information received via a signal as set forth above in claim 15.

Neither Valentine nor Seazholtz explicitly discloses a handshake signal. However, receiving the instruction to change based upon information received in a handshake signal is well known in the art. In particular, Heidari discloses wherein the controller (see FIG. 3, DSP 372) receiving the instruction to change in a handshake signal (see col. 6, lines 40 to col. 7, lines 35). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Valentine and Seazholtz, by changing based upon set/up (i.e. handshake) signal, as taught by Heidari. The motivation to combine is to obtain the advantages/benefits taught by Heidari since Heidari states at col. 2, lines 20-49 that such modification would provide access to theses higher frequency ranges at a reduced cost, and without the complexity.

8. Claims 7,8,22,45-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Seazholtz, and further in view of Ham (US006856682B1).

Regarding Claims 7 and 8, neither Valentine nor Seazholtz explicitly disclose POTS with PPM service wherein PPM service is any one of 12kHz PPM service or 16 kHz service.

However, the above-mentioned claimed limitations are taught by Ham. In particular, Ham teaches a POTS with PPM service (see FIG. 2, POTS 14) and PPM service is any one of 12kHz PPM service or 16 kHz service (see col. 4, line 40-65; see col. 5, lines 35-40; see col. 8, lines 5-25; POTS with tax/billing/metering tones (i.e. PPM) services at 12k Hz or 16 kHz).

In view of this, having the combined system of Valentine and Seazholtz, and then given the teaching of Ham, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Valentine and Seazholtz, by providing /billing/metering tones (i.e. PPM) services at 12k Hz or 16 kHz, as taught by Ham. The motivation to combine is to obtain the advantages/benefits taught by Ham since Ham states at col. 1, line 55 to col. 2, lines 20 that such modification would reduce or eliminate the processing of an input signal communicated on a telephone line and provide cost effective POTS splitter that provide billing/metering services tones).

Regarding Claim 22, Valentine discloses a second interface that supports the POTS service (see FIG. 1, line circuit 41 or FIG. 3, POTS interface 106; see col. 7, lines 8-21, see col. 5, lines 60-67).

Neither Valentine nor Seazholtz explicitly disclose POTS with PPM service. However, the above-mentioned claimed limitations are taught by Ham. In particular, Ham discloses a second interface that supports the POTS service (see FIG. 2, frequency component 1, POTS, telephone signals) and POTS with PPM service (see FIG. 2, frequency component 2 for POTS with tax/billing/metering tones (i.e. PPM) services; see col. 4, line 40-65; see col. 5, lines 35-40; see col. 8, lines 5-25).

In view of this, having the combined system of Valentine and Seazholtz, then given the teaching of Ham, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Valentine and Seazholtz, by providing POTS with billing/metering tones (i.e. PPM) services, as taught by Ham. The motivation to combine is to obtain the advantages/benefits taught by Ham since Ham states at col. 1, line 55 to col. 2, lines 20 that such modification would reduce or eliminate the processing of an input signal communicated on a telephone line and provide cost effective POTS splitter that provide billing/metering services tones).

Regarding Claim 45, Valentine discloses monitoring operation of the line card; and selecting an operational mode based on operation of the line card (see col. 5, lines 44-50; see col. 6, lines 1-15; see col. 7, lines 22-59).

Regarding Claim 46, the claim, which has substantially disclosed all the limitations of the respective claim 3, 21 or 41. Therefore, it is subjected to the same rejection.

9. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valentine in view of Seazholtz as applied to claim 1 above, and further in view of Barker (US006470020B1).

Regarding Claim 26, neither Valentine nor Seazholtz explicitly discloses P-Phone services. However, providing p-phone service is well known in the art. In particular, Barker discloses p-phone services (see abstract; see FIG. 1, p-phone; see col. 1, lines 25-40; see col. 6, lines 64 to col. 7, lines 36). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the combined system of Valentine and Seazholtz, by providing p-phone services, as taught by Barker. The motivation to combine is to

obtain the advantages/benefits taught by Barker since Barker states at col. 1, line 25-60, col. 2, lines 25-30; col. 3, lines 35-50 that such modification would provide stimulus singling protocol of p-phone for business handsets, and overcome prior problems by integrating stimulus signaling protocol communication system with message protocol communication system.

Alternatively, the combined system of Valentine and Seazholtz teaches xDSL services, ISDN, POTS, ADSL, HDSL services, and emerging variety of xDSL services at the line card of the central office. Providing additional p-phone services at the interface do not define a patentable distinct invention over that in the system of Valentine since both the invention as a whole and the combined system of Valentine and Seazholtz are directed to providing different services at the central office. The degree in which providing two additional services presents no new or unexpected results, so long as different plurality of services is provided in a successful way. Therefore, to provide p-phone services would have been routine experimentation and optimization in the absence of criticality.

Response to Arguments

10. Applicant's arguments filed 2-12-07 have been fully considered but they are not persuasive.

Regarding claims 1-3,5-10,15-16,19-30,42-46, the applicant argued that, "...nothing in the relied upon section of Valentine provides a teaching of... controller changes from a first type of xDSL telecommunication service to a second type of xDSL telecommunication service during an ongoing communication session of a subscriber on the single subscriber line with another party...such a change could not be make during an ongoing subscriber communication

session...dependent claims 15 defines the controller as including means....service. Neither Valentine...nor...provide such a teaching..." in page 6-8.

In response to applicant's argument, the examiner respectfully disagrees with the argument above, and the combined system of Valentine and Seazholtz discloses the claimed invention as set forth in above in rejection.

Valentine discloses the controller changing from a first type of xDSL telecommunication service (see FIG. 3, first type of XDSL, or first variety/type of xDSL protocol) to a second type of telecommunication service (see FIG. 3, ISDN or POTS) during an ongoing communications session (see col. 5, lines 1-43; see col. 6, lines 1-65; see col. 7, lines 10-44; update/change the configuration in/during a communication circuit/line/connection) of a subscriber (see FIG. 1, Subscriber 15 (e.g. caller)) on the signal subscriber line (see FIG. 1, signal line/trunk 29/45) with another party (see FIG. 1, subscriber 15 on the opposite side of the network (e.g. callee)); see col. 3, line 35-65.

Seazholtz teaches a multi-mode circuit installed in a equipment at a central office (see FIG. 7, ADSL/AVR system/circuit install in a equipment at the central office; see col. 11, line 1-67), and the controller (see FIG. 7, Microprocessor/controller of the central office) changing from a first type of xDSL telecommunication service (see col. 12, line 1-16; see col. 13, line 51-65; col. 14, line 1-17; a changing first conventional ADSL type/mode) to a second type of xDSL telecommunication service (see col. 12, line 17-36; see col. 13, line 51-65; col. 14, line 13-45; to a second bidirectional improved type/mode of DSL (e.g. directional HDSL, see col. 2, line 1-7,25-37; see col. 6, line 46-55) for real time application) during an ongoing communications session (see col. 12, line 1-5; during a communication section) of a subscriber (see FIG. 7,

Subscriber on subscriber premises (e.g. caller)) on the signal subscriber line (see FIG. 7, on the DSL line) with another party (see FIG. 7, another Subscriber on the opposite end (e.g. callee)); see col. 11, line 1-20; see col. 12, line 1-16).

Thus, it is clear that the combined system of Valentine and Seazholtz discloses the claimed invention.

In response to argument on Valentine's DSP not disclosing the changing during an ongoing communication section, Valentine discloses, *inter alia*, in col. 5, line 65 to col. 6, line 31, 50-65;

As shown, the line circuit 75 includes a memory space 68 for storing a plurality of software algorithms that control the functionality of the DSP 66. The memory space 68 can be equipped with a service port or terminal to permit the operations and management center 50 to perform such updates. Preferably, the A/D converter 64 has a sufficiently high sampling rate and **dynamic range to support high rate protocols such as the emerging variety of xDSL protocols**. Likewise, the DSP 66 has sufficient processing power to execute any of the algorithms stored in the memory space 68 necessary to implement such protocols. The stored algorithms contain the instructions to the DSP 66 that implement subscriber side communications protocols. The fact that the DSP 66 has sufficient **dynamic range to execute the software algorithms** in memory space 68 **eliminates the need to make physical hardware changes of the hardware or software** in the DLC 42.

For example, should the subscriber 15 want to change from being an analog subscriber using POTS to an ISDN subscriber or one of the xDSL variant protocols, the change can be implemented in the memory space 68 through the stored algorithms. The stored algorithms operate the DSP 66 and cause it to implement the communications protocol desired by the subscriber 15. With the A/D converter 64 having a sufficiently high sampling bandwidth and dynamic range, protocols are implemented in the digital domain so that it is no longer necessary to rely on discrete components to implement the interface to the subscriber side. This eliminates or reduces physical hardware changes at the DLC 42.

The fact that the DSP 66 can **be reprogrammed** and can use all the spectrum that a subscriber line wire pair 62 **contains eliminates "frozen" technology** at remote sites and **reduces "trunk roll" for subscriber access upgrades** allowing the introduction of new technology by updates in the stored algorithms of memory space 68 through the operations and management center 50 and common media signal pathway 52. (Emphasis added)

In view of the above, it is clear that Valentine changing its DSP programming "dynamically" without "frozen" (i.e. during ongoing session operation) or without "changing hardware or software" in order to support different xDSL service.

In response to argument on claim 15, Valentine discloses wherein the controller includes means for receiving (see FIG. 2-3, Interface 60) a signal from the subscriber (see FIG. 2, the combined system 66-68 receives a change indication from the subscriber 15 via Interface 60) during the ongoing communication session where the signal is a request to change from the first type of xDSL telecommunications service to the second type of telecommunication service (see col. 5, lines 1-43; see col. 6, lines 1-65; see col. 7, lines 10-44; an notification/request/desired indicates that a subscriber 15 want to change from first type of XDSL, or first variety/type of xDSL protocol service to POTS/ISDN service). Seazholtz also discloses the controller includes means for receiving (see FIG. 7, MUX) a signal from the subscriber (see col. 14, line 5-25; receiving a request for a change in modes) during the ongoing communication session (see col. 14, line 1-7; during the communication session) where the signal is a request to change from the first type of xDSL telecommunications service to the second type or xDSL telecommunication service (see col. 14, line 5-40; a changing first conventional ADSL type/mode to a second bidirectional improved type/mode of DSL (e.g. directional HDSL, see col. 2, line 1-7,25-37; see col. 6, line 46-55) for real time application; see col. 12, line 17-36; see col. 13, line 51-65; col. 14, line 5-45).

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

INM
5/2/07

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